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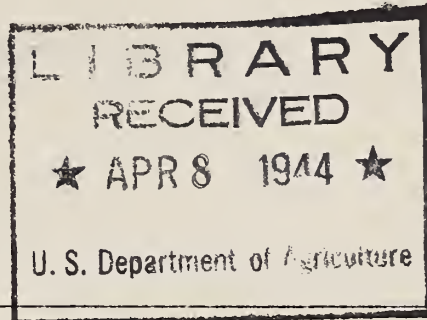
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SOIL CONSERVATION LITERATURE  
SELECTED REFERENCES

V.1

November/December

No.6



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"All knowledge is in print or will be tomorrow. To know how to find in books and journals just the information you need.- that is to hold the eel of wisdom by the tail."-- John Cotton Dana.

The publications listed herein may in most cases be borrowed from the Service Library by members of the Washington and field staffs. For convenience Library call numbers are given after each book and pamphlet entry. These should be included when requesting loans.

PERIODICAL ARTICLES

Capillary Tension

Richards, S.J. and Lamb, John, Jr. Field measurements of capillary tension. Jour. Amer. Soc. Agron. 29(9): 772-780. September 1937.

"Literature cited," pp. 779-780.

"At the Arnot Station of the Soil Conservation Service, located at Cayuta, New York, tension measurements have been obtained over parts of two growing seasons (1935 and 1936). Measurements have been made on two soil types at three depths and for various land covers on the same soil. These measurements of capillary tension are reported in this paper and they are correlated with some of the factors affecting soil moisture conditions, namely, rainfall and run-off."

Contour Tillage

Collins, E.V. and Bloom, M.W. Contour furrows simplified. Agr. Engin. 18(9): 402, illus. September 1937.

Describes an experimental machine designed and built with the objective of providing a comparatively simple means of building contour ridges without destroying any of the sod and leaving a minimum of unsodded earth exposed.

"The contour furrows made by the machine have not been in use long enough to determine the effectiveness of such treatment in soil and water conservation, but it is anticipated that it will reduce run-off, insure an increased grass growth and make more practical the application of lime and fertilizers to pastures, as the ridges formed should prevent the loss of these materials by surface run-off."

Profits from contours. Northwest. Miller 191(9): 14. Sept. 22, 1937.

"The contour-tilled field of a Kansas farmer yielded 15 bus of wheat to the acre. The straight-row tilled field produced wheat only in the low spots where excessive moisture was available from run-off water. Only about 25 percent of the field was harvested with a yield of 6 bus to the acre."

Dams

Galloway, J.D. The design of rock-fill dams. Amer. Soc. Civil Engin. Proc. 63(8): 1451-1474, Illus. October 1937.

The term is defined and a short history is given of the origin and evolution of the type which during the past 75 years has been developed in California and western states. Details of construction are included.



### Farm Machinery

Bloom, M.W. Contour furrows constructed without loss of sod. Soil Conserv. 4(3): 105-106, illus. October 1937.

Describes special contour-farrowing plow developed in Iowa.

Find new use for "chisel" plow. Proves useful in preventing soil erosion. Wash. Farmer 62(6): 176. Mar. 18, 1937.

Describes use in erosion control work in Pacific Northwest.

Ryerson, G.E. Farm machinery problems in erosion control. Agr. Engin. 18(10): 449-450. October 1937.

Presented before the Soil and Water Conservation Division at the annual meeting of the American Society of Agricultural Engineers at Urbana, Illinois, June 24, 1937.

### Farm Woodlots

Mitchell, H.C. Is it good business for a farmer to devote land to the production of timber crops? U.S. Soil Conserv. Soil Conserv. News (Region 4) pages, 1-3. October 1937.

Choosing a single angle as a basis for taking evidence the author carefully analyzes conditions on a given farm in a cotton section. His opinion is that "the relative value of forest products can be expected to increase as and when the farmer learns more about marketing."

### Fertilizers

Cotton, H.E. Conserving the benefits of soil conservation. Better Crops and Plant Food 21(10): 17-18, 38. October 1937.

"From the records thus far studied, one outstanding conclusion is that fertilizers, and particularly potash, play an important part in intensifying, multiplying, and making more lasting the results of soil conservation work."

Hale, G.A. Fertilize to control cotton-belt erosion. Better Crops With Plant Food 21(9): 21-22, 46-47, illus. Aug/Sept. 1937.

"In the past, the value of commercial fertilizers has been determined solely on the basis of increases in crop yields and quality from the use of these materials. In the future, commercial fertilizer is destined to assume a new role, that of increasing vegetal cover for holding topsoil in place and keeping fertility at present on higher levels."

Prince, F.S. The use of soil tests in conservation. Better Crops With Plant Food 21(10): 11-13, 42-44, illus. October 1937.

New Hampshire farmers are encouraged to use soil tests as a guide to the proper fertilization program, it being pointed out that a well-balanced fertilization program is not only more far-reaching in conserving and building up the soil, but it will mean more immediate returns in the way of better legumes and pasture crops.

The vital need for potash in New Hampshire soils is stressed.

## Flood Control

Flood control in New England. Outlining recommendations of Water resources committee and U.S. Engineer corps. Civ. Engin. 7(11):740-754. November 1937.

Abstracts of three papers delivered before a meeting of the northeastern section of the American Society of Civil Engineers, Boston, Mass., May 5, 1937.

They are the following: Water resources committee recommendations for New England, by H.K. Parrows, pp. 740-744; Army engineers' plan for Connecticut valley, by M.J. Young, pp. 744-750; Army engineers' plan for Merrimack valley and principal Maine rivers, pp. 750-754.

Harmon, James. Flood control. Communist 16(6): 569-576. June 1937.  
Favors upstream engineering.

Thornthwaite, C.W. The hydrologic cycle re-examined. Soil Conserv. 3(4): 85-91, illus. October 1937.

"Hydrologists have been inclined to view the hydrologic cycle from below, commencing with run-off. It now appears that we might do well to view it from above, commencing with atmospheric circulation. By so doing, we observe two types of air masses: The first, warm and moist, being cooled and consequently losing moisture by condensation and precipitation; the second, cold and dry, being warmed and gaining moisture through evaporation. The run-off from a large drainage basin can be thought of as an expression of the relative effectiveness of these air-mass types. If the moist masses lose more moisture than the dry masses gain, there will be run-off. If, on the other hand, absorption by dry masses equals precipitation, there will be no run-off....

"This suggests a novel method of flood control. It would seem that any method of soil conservation or of forestry which would retard the run-off in the head-waters of a drainage basin would increase the evaporation of the water. In this way more of the water would be diverted from the surface streams into these great invisible atmospheric streams. Any technique which would stimulate additional evaporation of excessive rainfall from the land into these atmospheric streams, there to be conducted harmlessly back to the seas, would serve as an important and supplemental flood-protection measure."

## Grass

Crider, F.J. and Hoover, M.M. Collection of native grass seed in the Great Plains, U.S.A. Imp. Bur. Plant Genetics. Herbage Pub. Ser. Bull. 24. 15pp., illus. Aberystwyth, Great Britain, September 1937.

## Highway Erosion Control

Simons, C.E. Tomorrow's highway. Texas Parade 2(3): 10-11, 25-27, illus. August 1937.

Highway erosion control in Texas.

The plan advocated by W.A. French, division engineer for the highway department at Abilene "proposes to retain on the land on which it falls all, or nearly all, of the rain water. This would be accomplished by proper measures taken within each drainage area. If the water is held on the land it follows that it cannot damage the highway."

This plan which is said to conform to the modern trend in highway construction calls for elimination of ditches, culverts or other visible drainage structures.



### Land Utilization

Ahrens, T.P. The application of aerial photographs to land use problems. U.S. Farm Security Admin. Div. Land Util. Land Policy Circ., pages 12-15. September 1937.

Scobey, F.C. Technique in mapping as related to land use as developed for the Rio Grande joint investigation. Agr. Engin. 18(9): 397-401, illus. September 1937.

Presented before a meeting of the Pacific Coast Section of the American Society of Agricultural Engineers at Berkeley, Calif., February 5 and 6, 1937

Wallace announces plans to administer tenant act. U.S. Farm Security Admin. Div. Land Util. Land Policy Circ., page 7. September 1937.

Announces Farm Security Administration as the official name of the former Resettlement Administration. Will W. Alexander is to be administrator.

Responsibility for the development of a program of land utilization and retirement of submarginal land has been assigned as of September 1 to the Bureau of Agricultural Economics, with Dr. L.C. Gray appointed to the new post of Assistant Chief in charge of land utilization.

### Orchard Management

Claypool, L.L. Spray residue in the soil. Better Fruit 32(4): 10. October 1937.

"The relationship between spray materials and soil fertility has been almost completely neglected by both the State Experiment Station and The U.S. Department of Agriculture...in many orchards it appears almost impossible to start leguminous covercrops which are so essential in furnishing both nitrogen and organic matter to the soil as well as aiding in water penetration..."

"Some work is now under way in the Wenatchee district of Washington to determine methods, if any, whereby covercrops can be made to grow in spite of arsenical residue in the soil."

### Permeability

Mathieu, Gaston. Subterranean irrigation. Compt. Rend. Acad. Agr. France 23: 752-756. Jly. 7, 1937.

"Subterranean irrigation, where  $H_2O$  circulates upward by capillarity, increases the content of nitrate N in the soil layers from 0 to 60 cm. Subterranean irrigation with  $CaO$ -rich water increased the permeability of the soil fourfold over the soil receiving surface irrigation." -- J.P. Adams. Chem. Abs. 31(19): 7166. Oct. 10, 1937.

Penman, F.; Skene, J.K.M. and Walters, D.V. Irrigation of sultanias in the Swab Hill district. Jour. Dept. Agr. Victoria 35(7): 348-364, illus. July 1937.

References, p. 364.

"Impeded penetration of irrigation water through the subsoils of the several of the major types of the area has been noted as an important factor in the irrigated horticulture of the district. In this connexion rational use of water and application of methods designed to improve



### Permeability (Cont'd)

Penman, F., Skene, J.K.M. and Walters, D.V. (Cont'd)

soil permeability have been stressed. Recommendations providing a basis for irrigation technique on individual soil types are given."

### Rainfall and Precipitation

Alter, J.C. Shielded storage precipitation gages. U.S. Weather Bur.  
Mo. Weather Rev. 65(7): 262-265, illus. July 1937.

Lackey, E.E. Annual-variability rainfall maps of the Great Plains.  
Geogr. Rev. 27(4): 665-670, illus. October 1937.

"The present study is undertaken in the belief that the theory of probabilities applied in a new way to weather data may offer an approach to more rational agricultural operations."

Visher, S.S. Regional contrasts in rainfall intensity in Indiana with some consequences of the contrasts. Ann. Assoc. Amer. Geogr. 27(2): 121-122.  
June 1937.

"Apparently correlated with the regional contrasts in rainfall distribution and intensity are notable contrasts in the type and extent of soil erosion, in topography, in crop yields, in agricultural practices, and in land use of other sorts, and in other respects."

### Range and Pasture Management

Campbell, R.S. Problems of measuring forage utilization on western ranges.  
Ecology 18(4): 528-532, illus. October 1937.

"Literature cited," p. 532.

Difficulties encountered by Division of Range Research, U.S. Forest Service in attempting to measure range forage utilization more accurately.

Enlow, C.R. Pasture improvement in relation to erosion control in the United States. Internatl. Grassland Cong. 4th, Gt. Brit., 1937. Abstracts of Plenary and Sectional Papers, pp. 2-3. 1937.  
English and German.

Fenton, E.W. The influence of sheep on the vegetation of hill grazing in Scotland. Jour. Ecol. 25(2): 424-430. August 1937.  
"References," p. 430.

Milhollin, R.M. Pasture conservation measures on the San Angelo soil conservation project. Southwest. Sheep and Goat Raiser 7(23): 7, 26-27, illus. Sept. 1, 1937.

### Silt

Richardson, E.G. The suspension of solids in a turbulent stream. Roy. Soc. Proc. Ser. A 162(911): 583-597, illus. Oct. 15, 1937.  
References, p. 597.

"A technique is developed by means of which the relative quantities of solid carried in suspension at different levels in a water

## Silt (Cont'd)

Richardson, E.G. (Cont'd)

channel having a bed of graded sand can be measured and the results applied to predict how the austausch varies in the vicinity of the bed... it is shown that a simple apparatus enables one to make observations of the total silt content of a river from time to time."

## Soil and Sand Blowing

Bagnold, R.A. The transport of sand by wind. Geogr. Jour. 89(5):409-438. May 1937.

An account of recent experimental work on the mechanism by which sand is moved by a wind over surfaces of sand and pebbles. The work has in the main been limited to flat, horizontal surfaces, but deductions are drawn concerning the growth and nourishment of dunes.

Iceland has dust bowl troubles too says report. Forestry News Digest. September 1937, page 8.

Abstract of report of A.F. Kofoedhansen, director of forestry in Iceland.

Joel, A.H. Control of soil drifting in Canadian west. Soil Conserv. 4(3): 111. October 1937.

## Soil Conservation

[Detwiler, S.B.] Slope usage. Soil Conserv. 3(3): 64, 66-67, 83-84, illus. September 1937.

Reviews some of the opportunities for improved hill culture farming involving erosion control practices.

Ditches reinforced with cotton resist weeds and erosion. Pop. Mech. 67(1): 47. January 1937.

Roadside drainage ditches, soil erosion control ditches and irrigation ditches are all being built with cotton-reinforced asphalt lining.

Seaman, G.L. Farm your land to keep it. That's the motto of the Hoffmans, in whose family this fertile farm has been since 1740. N.J. Farm and Garden 8(5): 5, illus. May 1937

Soil erosion has been conquered by placing a layer of sod in the first marks of gulleys, thereby providing a "catch" for the valuable soil that starts washing away. As the sod becomes covered, the grass grows through and forms a second barrier to the run-away soil. One or two seasons of this simple, yet effective practice completely fills the ditch.

Taylor, B.L. The "spread row" system for laying off rows. Soil Conserv. 4(3): 108-111, illus. October 1937.

A system worked out to aid the farmer after his fields have been properly terraced.

Throckmorton, R.I. Soil treatment as safeguards against drought. Kansas State Bd. Agr. Report 66: 61-69. Topeka, 1937.

Address delivered at Kansas agricultural convention, January 1937.



## Soil Conservation (Cont'd)

### Throckmorton, R.I. (Cont'd)

The speaker stated that "Kansas farmers can do much to reduce the losses from drought by following those methods of soil management and tillage that will keep the soil at all times in a condition that will reduce the loss of water by surface runoff and that will aid in absorption of water by the soil."

Information relative to moisture penetration obtained during experiments in Kansas is included.

## Soil Conservation Legislation

President signs dust bowl and flood bills. Forestry News Digest, September 1937, page 1.

"The state-aid 'dust bowl' measure winning his approval authorizes the secretary of agriculture to 'formulate and keep current' a program of projects for construction and maintenance of ponds, reservoirs, wells, check dams and pumping installations in dry areas where it would promote 'proper utilization' of lands."

Public 399. 75th Congress, 1st session.

Wilson, M.L. Economic democracy in soil conservation. U.S. Dept. Agr. Agr. Situation 21(9): 9-10. Sept. 1, 1937.

Importance of the Standard State Soil Conservation Districts Law in providing efficient social machinery for land use regulation.

## Soil Erosion

Brown, C.B. Protecting bottomlands from erosional debris: a case history. Soil. Conserv. 3(4): 93-96, illus. October 1937.

Construction of and economic value of a debris-basin or diked-off area in Doniphan County, Kansas.

Cole, W.S. Modification of incised meanders by floods. Jour. Geol. 45(6): 648-654, illus. Aug./Sept. 1937.

"The structurally controlled meanders of Coy Glen were modified in 1935 by a flood of short duration but unusual volume and force... As slow incision, structurally controlled, formed the spurs, their modification in a single flood is definite evidence that such erosion is extraordinary."

Collins, R.F. and Schalk, Marshall. Torrential flood erosion in the Connecticut valley, March, 1936. Amer. Jour. Sci. 34(202): 293-307, illus. October 1937.

Coyle, D.C. Balance what budget? Harpers Mag. 175: 449-459. October 1937.

"A balanced Treasury budget would not keep us from wasting our soil and forests... the nation's real budget as distinguished from its Treasury budget - is not balanced. The nation is eating its physical and human resources and growing poorer year by year.

Here and there in the national scene, some element of our extra-



Soil Erosion (Cont'd)

Coyle, D.C. (Cont'd)

gance sticks through the fog enough to be visible to all observers. Soil erosion, for example, is visible - thanks largely to the dust storms... The lesson of the dust storms has served to make it harder to 'economize' in terms of money - in Washington. Almost anyone will admit that economy in the Soil Conservation Service is not economy."

Kirkmire, D.F. Soil-erosion problems on irrigated farm land. Soil Conserv. 4(3): 112-114, 116, illus. October 1937.

Rummell, H.S. Groundhog erosion. Capper's Farmer 48(10): 39 October 1937.

Cites an alfalfa field which in five years became scarred with gullies due to work of groundhogs. Suggestions for control are given.

Soil Erosion. Foreign Countries

Aitchison, H.J. Practical tips in the campaign of dam-building. The silt and erosion dangers. Farmer's Weekly 53(1461): 1065-1067, illus. Je. 16, 1937.

The author expresses the opinion that, in South Africa, dams cause erosion rather than prevent it. He illustrates how dam-building and anti-soil erosion work can be combined.

Buffault, Paul. L'histoire du déboisement à travers le monde. Rev. Internat. du Bois 4(41): 189-214. May 1937.

History of deforestation throughout the world.

C., M.M. La destruction de la forêt malgache. Rev. Bot. Appl. et D'Agr. Trop. 17(188): 78-9. April 1937.

The destruction of the Malagasy forest.

"Formerly the burning of forest clearings in Madagascar was practically restricted to the actual requirements of the native small holdings, but of recent years the profitability of growing 'Cape peas' [Vigna sp.?] and maize has led to an almost indiscriminate firing of ever increasing tracts of forest, the accelerated and visible disappearance of which is attended by the inevitable corollaries of vanishing plant cover, erosion, and the formation of deserts. In view of the better tax-paying capacity of the natives, the official attitude has tended rather to encourage the practice, with certain reservations. The author emphasizes the gravity of the danger and the necessity for rapid and energetic measures to counteract it."-- G.M.R." Herb. Absts. 7(3) 263-264. September 1937.

Fyvie, T.L. Planned paddocks beat erosion and other evils. A shelter-belt and fencing lay-out in South Africa that saves the soil, retains moisture and helps both man and stock to do better work. Farmer's Weekly 53(1461): 1069-1071, illus. Je. 16, 1937.

### Soil Erosion. Foreign Countries

Putod, R. Action de l'enherbement sur les reboisements en Algérie.  
Rev. Eaux et Forêt 75(5): 412-426., illus. May 1937.  
Formation of grass cover in reforested land in Algeria.

Stewart, G. R. Post-war agriculture and soil erosion in Czechoslovakia.  
Soil Conserv. 3(4): 103-105, illus. October 1937.

Swingle, C. F. Forest destruction and soil erosion in Madagascar. Soil  
Conserv. 3(4): 102-104, illus. October 1937.

Tamensis, Florencio and Sulit, Carlos. Reforestation and flood control.  
Makiling Echo 16(2): 80-97. April 1937.  
Bibliography, pp. 95-97.  
Soil and water conservation in the Philippines.

Weitz, J. An afforestation plan for Palestine. Palestine and Middle  
East Econ. Mag. 8(9): 391-394, 390, illus. August 1937.  
Suggests a government afforestation policy, discusses hill and sand-  
dune afforestation.  
The planting of two types of forests is urged, ordinary woodlands  
and carob plantations, for the hills, which, according to the author,  
"owing to the erosion of the slopes which has gone on for many centu-  
ries - ever since the Jews were exiled from Palestine - and to the  
continuous felling of fruit and forest trees without replanting" have  
been brought to their present bare and denuded state.

### Soil Studies

Duthie, D. W. Studies in tropical soils. IV. Organic transformation in  
soils, composts and peat. Jour. Agr. Sci. 27(2): 162-177. April 1937.  
"References," p. 177.

In a study of samples from three representative West Indian profiles  
the author found that "high resistant-protein contents and low lignin-  
humus contents appear to be associated with low contents of celluloses.  
High fertility appears to be associated with a relatively deep pene-  
tration of celluloses within the profile. This may explain the fact that  
an eroded or exhausted agricultural soil, in which cellulosic organic  
matter has been removed or lost, recovers but slowly when organic  
manures or vegetable debris are applied to the surface, since a con-  
siderable period of time must elapse before the cellulose derived  
from the added organic matter can penetrate to appreciable depths."

Ekblaw, W. E. The role of soils in geographic interpretation. Ann.  
Assoc. Amer. Geogr. 27(3): 149-154. September 1937.

### Stream Flow

Hoover, O. H. and McLean, H. J. A study of standard and increment methods  
of measuring stream flow. Engin. Jour. 20(10): 781-784, tables.  
October 1937.

Paper presented at the semicentennial meeting of the Engineering



## Stream Flow (Cont'd)

Hoover, O.H. and McLean, H.J. Cont'd

Institute of Canada, in Montreal, June 16, 1937.

Compares two ways of developing a rating curve for the Bow river, Alberta, viz.: - The standard current-meter system and a new method based on known discharges through the power plant corresponding to certain increments of load.

Wilm, H.G., Cotton, J.S. and Storey, H.C. Measurement of debris-laden stream flow with critical-depth flumes. Amer. Soc. Civ. Engin. Proc. 63(7): 1259-1275. September 1937.

Describes experiments undertaken at the San Dimas Experimental Forest in California.

"The objective was to improve the present gaging stations so that they would yield reasonably accurate results with bed-load material present in the stream measured. Included in the study were also tests of the Parshall flume as constructed in the Experimental Forest, to check its accuracy with clear and loaded flows."

## Terracing

Charles, Tudor. Terracing level ground. An erosion control developed for steep hills, is adapted to western Kansas to conserve moisture. Kans. Farmer 74(47): 3, 23, illus. Oct. 9, 1937.

Examples and results of a new system of land management developed in southwestern Kansas at the suggestion of the Federal Soil Conservation Service project manager at Liberal.

"The basis of the idea is wide, low terraces, running on a level, and most of them dammed at the ends to hold the water back of them. They are built on land which the eye would report as virtually level. Farming is done on the contour."

Gussak, V.B. On the need of terraces. Soviet Sub-tropics no. 9, pages 67-71. September 1937.

"The writer criticizes K. Ilyashenko who wrote in the 'Soviet Subtropics' an article against the use of terraces in mountainous sections.

The chief objections of K. Ilyashenko were as follows:

(a) the cut slope of the terraces interferes with the development of the root system in this direction

(b) if the terrace has been filled, the fill is liable to dry and cause the trees to suffer from drought.

(c) terracing implies loss of area, it actually decreases the value of the area.

The writer considers that objections (a) and (b) are wrong because the roots, provided they find enough nourishment in the crown shaded area, show no tendency to develop sidewise.

Terracing as practical in California, Palestine and Iran shows that it does not cause the plants to suffer from drought.

The writer's observations and tests have shown that the soil of the terraces always contains more humidity than untterraced parts of slopes.

The writer further strives to prove that the value of an area depends



### Terracing (Cont'd)

Gussak, V.B. (Cont'd)

not on the number of trees but on the size of their production. Properly made terraces increase the yield of citrus by fully 50 percent compared with the unterraced slopes." - Summary.

Likes level terraces. Capper's Farmer 48(11):49. November 1937.

A Texas farmer has had satisfactory results from level terraces constructed 23 years ago with a Fresno. Before terracing his 100 acres had ditches waist deep. Today, one walking over the field cannot tell where the ditches were, it is stated.

"Yields show how the terraces have preserved fertility. From a 55 acre field 64 bushels of red milo an acre were harvested last year."

Mangum, P.H. My father invented it. Country Gent. 107(11):14, 73, illus. November 1937.

History, principles and use of the Mangum terrace.

### Vegetative Control of Erosion

Chambers, T.B. Engineering phase. The use of vegetation in mechanical erosion-control structures. Soil Conserv. 3(3): 60-63, 70, illus. September 1937.

Use for protection of channels, spillways, terraces, bank protection, diversion channels, strip cropping and methods of establishing vegetation.

Hendrickson, B.H. Opportunities for the contour balk method. Soil Conserv. 4(3): 107. October 1937.

Practiced only to a very limited extent in the southeastern states it has "evolved gradually as a method by which winter annual legumes successfully maturing seed may be permitted to self-seed the fields/year after year, certain summer row crops being grown in wide rows between the ripening legume balks."

Spence, L.E. Root studies of important range plants of the Boise river watershed. Jour. Forestry 35(8): 747-754, illus. August 1937.

An intensive study of the range-erosion problem, under the direction of the Intermountain Forest and Range Experiment Station "reveals the fact that the erosion is largely the result of the replacement of fibrous-rooted plants by those having taproots and semitaproots, and that it can be controlled effectively by reestablishing the original grass species or similar fibrous-rooted plants."

Swingle, C.F. A promising new cedar for erosion control. Soil Conserv. 3(4): 75-78, illus. September 1937.

Juniperus ashei, the Osark white cedar.

### Vegetation

Hanson, H.C. and Whitman, Warren. Plant succession on solonch soils in western North Dakota. Ecology 18(4): 516-522, illus. October 1937.

"Literature cited," p. 522.

### Vegetation (Cont'd)

Pechanec, J.F., Pickford, G.D. and Stewart, George. Effects of the 1934 drought on native vegetation of the Upper Snake river plains, Idaho. Ecology 18(4):490-505. October 1937.

"Literature cited," p.505.

Results of 4 years' detailed study from 1932 to 1935 at the U.S. Sheep Experiment Station, Dubois, Idaho.

### Water Conservation

Dachnowski-Stokes, A.P. Peat land for wildlife. Amer. Wildlife 26(4): 55,62-63, illus. Jly/Aug. 1937

References cited, p.63.

"Under conditions of heavy or prolonged rainfall, the absorbing and retaining capacity of an area of peat plays an important part in the storage and control of water and in mitigating severe and destructive floods, erosion and silting.

"The basic principle on which water conservation operates in peat land reveals also the role which a vegetable cover plays not only in providing cover, shelter, and food for wildlife, but also in aiding absorption and infiltration of water, retarding run-off and developing natural reservoirs of impounded water."

"Damming" or "basin-lister" in Dakota. Results secured during past year are very encouraging. Dakota Farmer 57(21):534,535, illus. October 9, 1937.

Where the machine which fashions thousands of small water-holding basins in the field by simply throwing up miniature dams across the lister furrows is used, and when and how.

"Various measurements and observations have indicated the effectiveness of the basin or damming lister..for storing moisture. Some North Dakota fields basin listed last fall showed moisture to a depth of 40 to 50 inches this spring, compared to only 4 to 12 inches on adjacent, untreated land."

A related purpose served by the lister is that of wind erosion control, by leaving the soil surface ridged and cloddy and more highly resistant to wind blowing.

Patrick, A.L. Flood control. Supplemental value of vegetative cover stressed. Soil Conserv. 3(3): 55-57, illus. September 1937.

Describes ways in which vegetation assists in infiltration of water and a greater utilization of the soil's storage capacity.

### BOOK AND PAMPHLET NOTES AND ABSTRACTS

American farm bureau federation. Institute of irrigation agriculture.

[Proceedings] sixth annual conference... Corvallis, Oregon, March 30, 31 and April 1, 1937. 76pp., mimeogr. [Chicago, Ill., 1937] 55.9 Am32 6th, 1937

Partial contents: A discussion and demonstration of the fundamentals of soil and water relations as applied to irrigation practices, by J.E. Brown, pp.19-25; Correlation of range land use with irrigation project needs, by



American farm bureau federation. (Cont'd)

F.R.Carpenter, pp 52-55; Irrigation practice as a factor in soil erosion, by H.E.Reddick, pp.11-19.

Association of southern agricultural workers. Proceedings. Abstracts of papers and addresses at the 37th and 38th annual conventions 1936-1937. 313pp. [Atlanta, Ga., 1937] 4 C82

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Second, in a study of Logan county made in cooperation with the Soil Conservation Service, the following information is reported; "An analysis of the amount of erosion on 93 representative farms was made. The 15 farms showing the least erosion were compared with the 15 showing the most. A net loss of about one-third of the top soil had taken place in the former group, and about three-fourths in the latter. The least eroded averaged 30 acres more per farm than the most eroded. The least eroded farms averaged larger yields of crops; corn averaged 28 bushels per acre, wheat 3 bushels and tobacco 349 pounds per acre more than on the badly eroded lands. Operators of the 15 least eroded farms earned labor incomes averaging \$536 more per farm than the 15 operators of the most eroded farms."

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